

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
5 February 2004 (05.02.2004)

PCT

(10) International Publication Number
WO 2004/011460 A2

(51) International Patent Classification⁷: **C07D 417/00**

Vancouver, British Columbia V6S 1B7 (CA). SVIRIDOV, Serguei, V. [BY/CA]; 1904-5885 Olive Avenue, Burnaby, British Columbia V5H 4N8 (CA).

(21) International Application Number:
PCT/CA2003/001078

(74) Agents: KINGWELL, Brian, G. et al.; Fetherstonhaugh & Co., Box 11560, Vancouver Centre, 650 West Georgia Street, Suite 2200, Vancouver, British Columbia V6B 4N8 (CA).

(22) International Filing Date: 23 July 2003 (23.07.2003)

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/398,504 24 July 2002 (24.07.2002) US

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(71) Applicant (*for all designated States except US*): KINETEK PHARMACEUTICALS, INC. [CA/CA]; 1779 West 75th Avenue, Vancouver, British Columbia V6P 6P2 (CA).

Published:

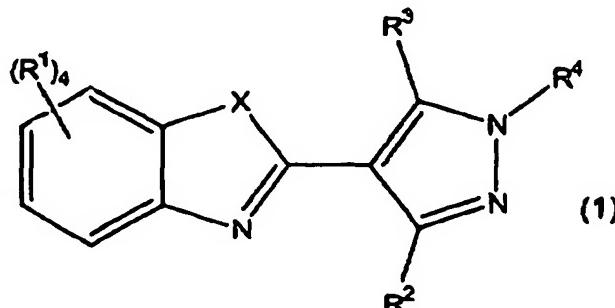
— without international search report and to be republished upon receipt of that report

(72) Inventors; and
(75) Inventors/Applicants (*for US only*): ZHANG, Zaihui [CA/CA]; 8120 Fairlane Road, Richmond, British Columbia V7C 1Y4 (CA). DAYNARD, Timothy, S. [CA/CA]; 1836 West 62nd Avenue, Vancouver, British Columbia V6P 2G4 (CA). WANG, Shisen [CA/CA]; 2550 Raven Court, Coquitlam, British Columbia V3E 2M1 (CA). DU, Xinyao [CA/CA]; 69-12551 Cambie Road, Richmond, British Columbia V6V 2A4 (CA). CHOPIUK, Gregory, B. [CA/US]; 387-10994 West Ocean Air Drive, San Diego, CA 92130 (US). YAN, Jun [CA/CA]; 819 Alderson Avenue, Coquitlam, British Columbia V3K 1V3 (CA). CHEN, Jianxin [CA/CA]; 3948 West 18th Avenue,

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: PYRAZOLYL BENZOTIAZOLE DERIVATIVES AND THEIR USE AS THERAPEUTIC AGENTS

WO 2004/011460 A2



(57) Abstract: Pharmaceutical pyrazolylbenzothiazole compositions of formula (1) are provided. The compositions may be pharmaceutically acceptable salts. R¹, R² and R³ at each occurrence are independently selected from amino, aminosulfinyl, aminosulfonyl, aryl, azido, halogen, heteroalkyl, heteroaryl, hydrazinyl, hydrocarbyl, hydrogen, hydroxyl, nitro, nitroso, phosphate, phosphinate, phosphonate, phosphonium, phosphorothioate, phosphoryl, sulfamoyl, sulfate, sulfonic acid, sulfonamido, sulfonate, sulfonic acid, sulfonyl, sulfoxido, thiol, thioureido, and ureido, and R⁴ is selected from hydrogen, heteroalkyl, heteroaryl, and hydrocarbyl.